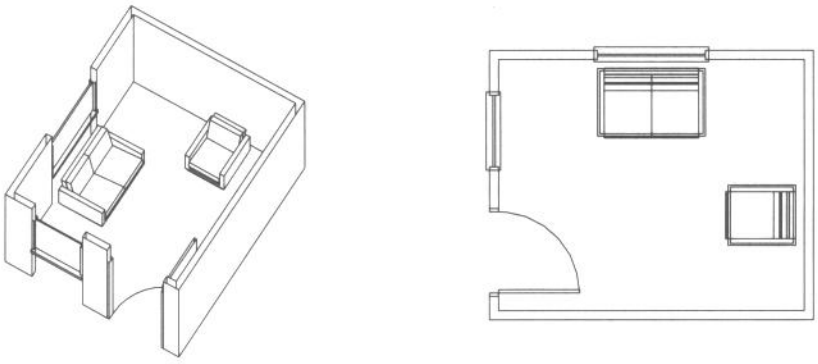
CHAPTER 3

3D Drawing



Project Goals

When you have completed this project, you will be able to:

1. Create isometric views.
2. Create perspective views.
3. Remove hidden lines from pictorial views.
4. Combine pictorial and plan views for presentation drawings.
5. Backup a drawing file with the **SaveDwg** option.

Prerequisite: Chapter 2

Introduction

In the first two projects in this book, you used the DataCAD software as a two dimensional system. While you were creating the plan for Ferd's Playhouse, the software was creating a three-dimensional computer model of your plan. In this project you will see how to create different pictorial views of this model.

1.__ Start the **DataCAD** software and **Open** your **Play2** drawing file.

To preserve the Play2 version of the design, a new file will be created. This process allows the designer to create a new version of a design without losing the original.

2.__ From the **MENU BAR**, select **File, Save As**, and ***enter*** **Play3** as the new file name.

Your display should look similar to Figure 3-1.

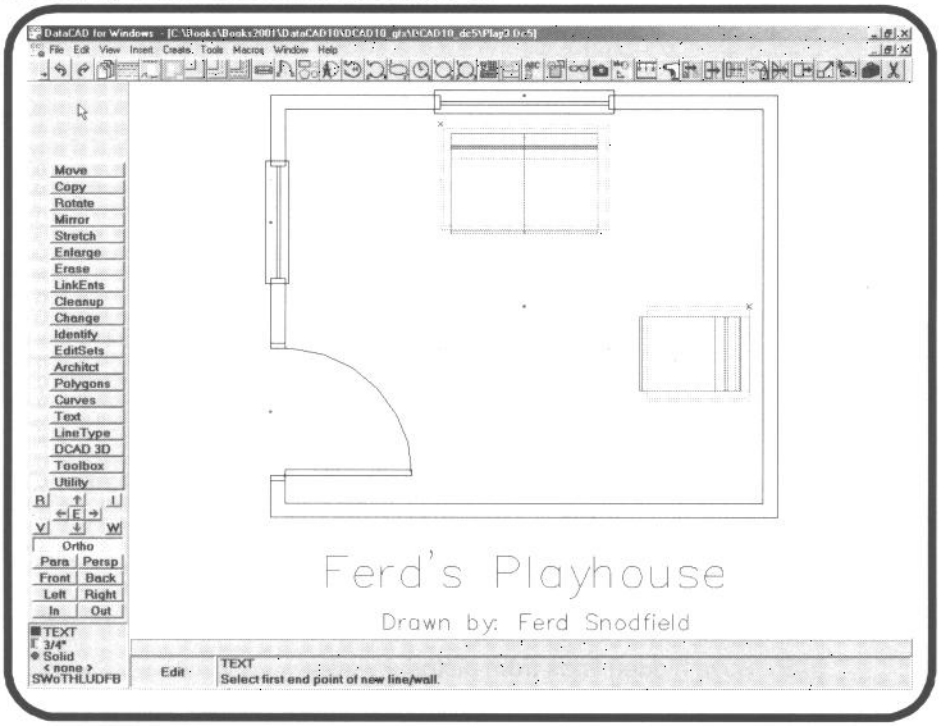


Figure 3-1, The playhouse drawing.

You may recall that in Chapter 2 you created a new drawing layer for the text. Since the text will not look very good in a pictorial view, the text layer will be turned off. The following steps show another way to manage layers.

3.__ Press the **l** [or the **L**] key to enter the **Layers** menu.

4.__ Select the **On/Off** option from the **Layers** menu.

5.__ Select **TEXT** from the **On/Off** menu to turn the text layer **off**.

Figure 3-2 shows the **Layers**, **On/Off** menu after the text layer has been turned **off**. Notice that the **TEXT** button is not depressed. This shows that the layer is off. Also notice that the information line on your display shows what action the system has completed. Also notice that the text has been removed from the display.

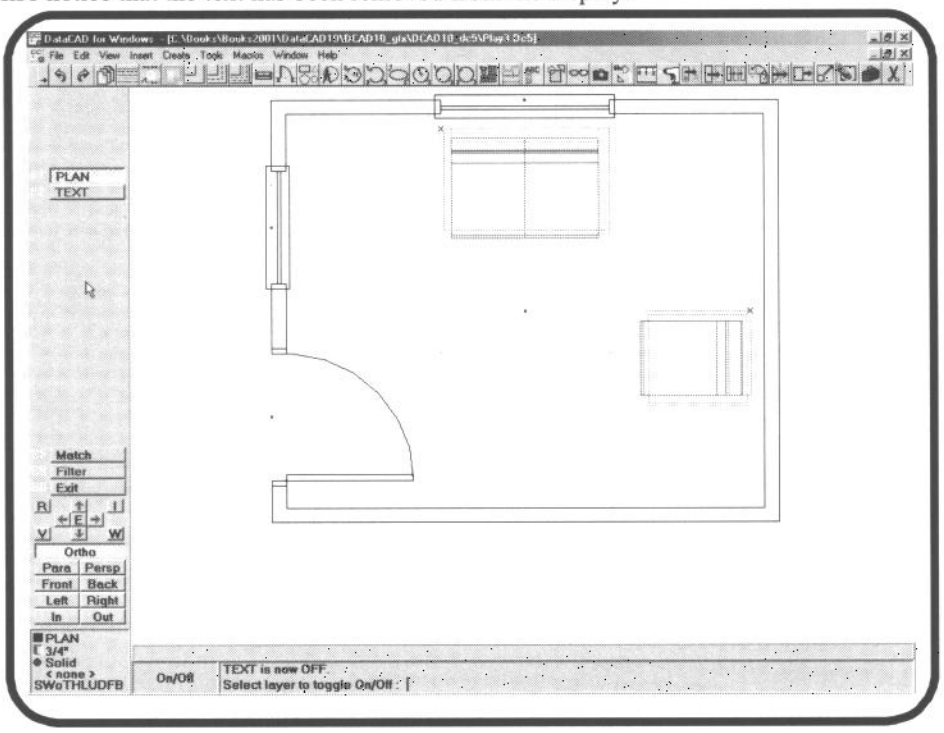


Figure 3-2, The Layers, On/Off menu.

You should note that the text has not been removed from the drawing file. It is still there. Whenever you want the text to appear on the display, just turn the text layer back on.

Creating 3D Views

Now that the text has been set aside, you can concentrate on creating 3D views of the Playhouse. There is a special menu that provides the 3D views options.

6.__ Enter the **3DViews** menu either by selecting **DCAD 3D** from the **Edit** menu and then selecting the **3DViews** option from the **3DEdit** menu, or by pressing the **y** [*not* the **Y**] key.

The **3DViews** menu is shown in Figure 3-3. There are four different view types on the **3DViews** menu: **Orthographic** (currently active in Figure 3-3), **Parallel**, **Perspective**, and **Oblique**. First an isometric view (which is a special case of parallel projection) will be created.

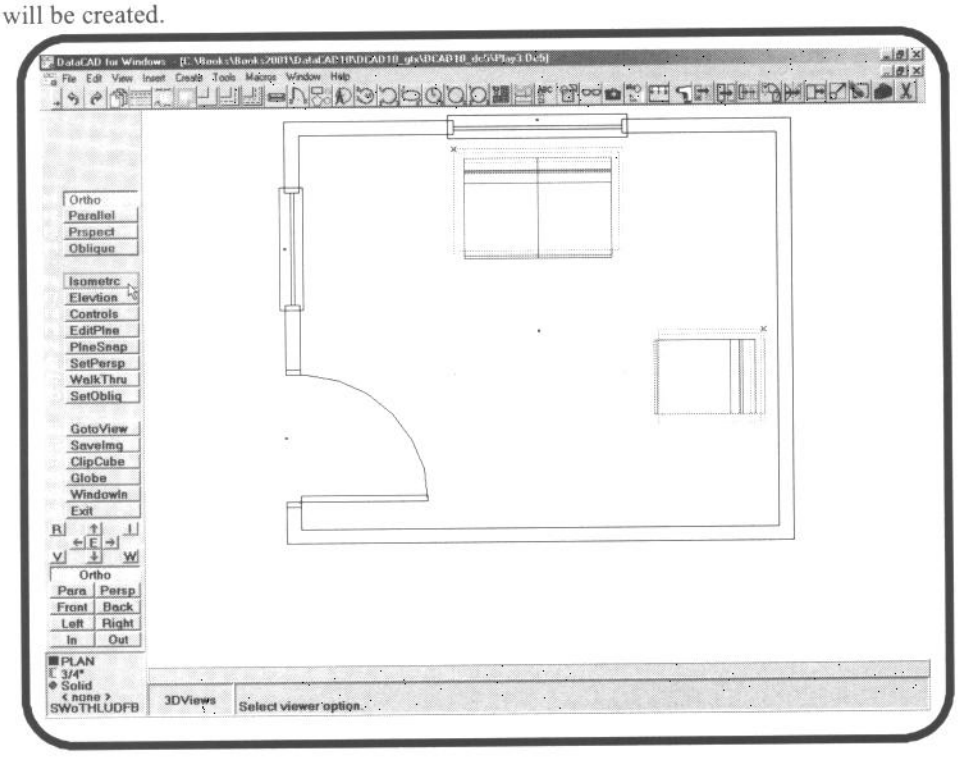


Figure 3-3, The 3DViews menu.

7.__ Select **Isometrc** from the **3DViews** menu.

As soon as you select the **Isometrc** option, your display will look similar to Figure 3-4. Notice that when you created the double line walls, the computer automatically created walls that were eight feet tall. When you added the doors and windows, the computer cut a hole in the walls and inserted the door and placed the windows at the proper elevation. Also notice that the love seat and lounge chair that you added to the plan were constructed in 3D.

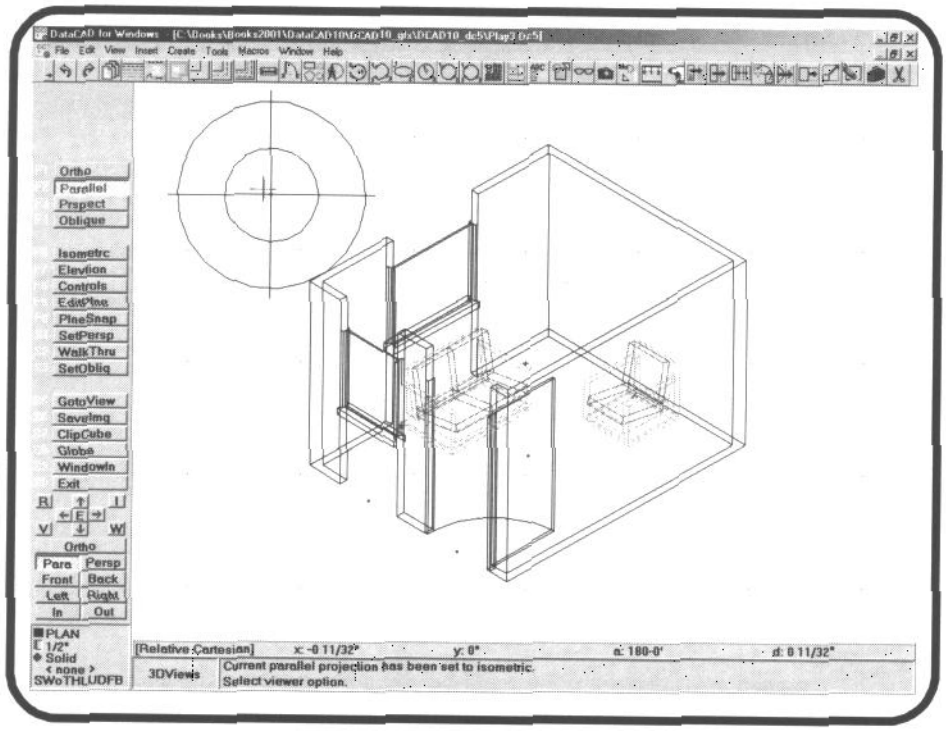


Figure 3-4, An isometric view.

To make an isometric drawing, such as that shown in Figure 3-4, using traditional pencil and paper techniques would take an experienced technical drawing expert quite a while to create. The DataCAD software provides tremendous power for manipulating 3D computer models.

Notice the double circle with the cross hairs shown in Figure 3-4. This represents a ***viewing sphere*** which gives us even more power to create different pictorial views. Let's first create a new parallel projection view, and then discuss how the viewing sphere works.

Using the Viewing Sphere

8.__ Move the drawing cursor to the point near the cross hairs in the viewing sphere as shown in Figure 3-4 (or Figure 3-5) and click the ***left*** mouse button ***once***.

Notice in Figure 3-5 how the view of the Playhouse on your display now has changed from Figure 3-4. The new view is from a different side of the house looking at a different angle.

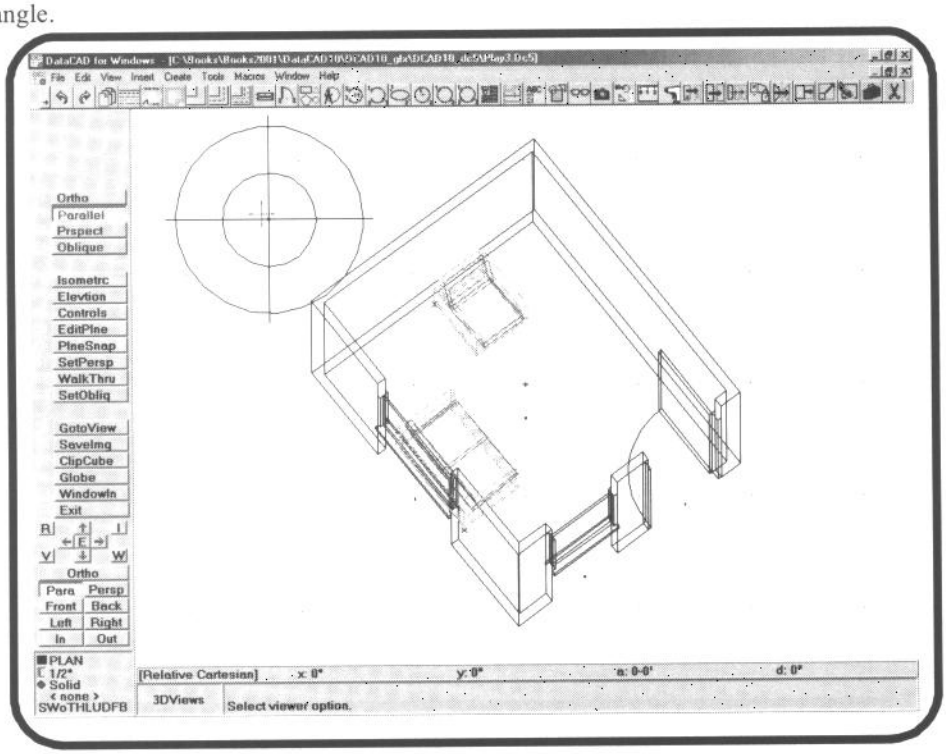


Figure 3-5, A new parallel projection view.

Here is how the viewing sphere works. Imagine that the double circle is actually a flattened out ball or globe. The point where the lines cross is the "north pole" of the globe. The smaller of the two circles is the "equator" of the globe and the large circle is the "south pole" (squished out to a circle because the screen is flat). To create a new view of the Playhouse, you first position the drawing cursor in one of the four quadrants (the pie shaped pieces between the lines) of the globe and click the left mouse button. Each quadrant will produce a view from a different side of the object.